REMARKS

Reconsideration of this application, in view of the foregoing amendments and the following remarks, is respectfully requested. Claims 5 and 10 have been canceled without prejudice or disclaimer of subject matter recited therein.

Claim Objections

Claim 5 is objected to because of certain informalities. Claim 5 has been canceled.

Claim Rejections under 35 USC § 102(e)

Claims 1-4 and 6-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Kang (US Patent No. 6,198,780 B1). Applicants respectfully traverse these rejections.

To anticipate a claim, the reference must teach each and every limitation of the claim. *See* MPEP §2131. As to claim 1, Kang does not each every limitation of claim 1.

Claim 1 has been amended to include limitations of claim 5. Kang does not teach this limitation. First, Kang requires both the positive edge and the negative edge to determine a real and a complex component for each edge (*see* figure 2, Hilbert filters 182 and 184). Second, a conjugate complex transform operation is performed on each of the real and imaginary component of both the positive and negative edges of the signal (*see* figure 2, element 186a). Third, the transformed conjugate complex components are then multiplied back with the real and imaginary components to extract the timing information (*see* col. 4, lines 16-47, figure 2, element 186b). In contrast, claim 1 recites using positive-frequency edge to provide an imaginary component as timing-retrievable signal adapted for retrieval of timing information therefrom. Accordingly, claim 1 is clearly and patentably distinguishable from Kang.

Further as to claim 2, Kang does not teach a loop filter as recited in claim 2 for averaging the time-retrievable signal as recited in claim 2. Similarly, Kang does not teach and the Examiner has not specifically cited any element in Kang that teaches the limitations of claims 3 and 4.

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Claim 6 and those depending therefrom have been rejected in the manner of claim 1. Claim 6 has been amended in the manner of claim 1 and accordingly, claim 6 and those depend therefrom are patentably distinguishable from Kang for at least the same reasons as claim 1.

Claims 1, 5, 6 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Abe, US Patent No. 6,148,037. Applicants respectfully traverse these rejections.

As to these rejections, citing figure 4 of Abe the Examiner has stated that "Since the output of the **complex square computing circuit (u_k)** is a complex sequence, it is <u>inherent that it includes a real and imaginary component</u> and that **the imaginary component is subsequently processed to retrieve timing information**." (Emphasis added).

Applicants respectfully point to the Examiner that First, the output u_k of the complex square computing circuit 264 actually includes two complex sequences, C_k, the complex baseband sequence, and p_k, the complex sequence generated by the generator 261 for frequency conversion. Thus, the output u_k is not the <u>portion of the positive-frequency signal edge</u> as recited in claim 1. Second, as to the inherent use of the imaginary component to retrieve the timing information as the Examiner has stated, Applicants respectfully point to the Examiner that actually, Abe very clearly describes what is used as the timing phase error. According to Abe, the low-pass filter 265 obtains a DC component of the complex sequence w_k as a timing phase error d_k corresponding to the phase angle to a clock generating circuit 267 (*see* col. Lines 49-55). Therefore, Abe does not teach using the positive-frequency signal edge to provide a complex signal having a real and an imaginary component, and providing said imaginary component as timing-retrievable signal as recited in claim 1. Thus, Abe does not teach each and every limitation of claim 1 and accordingly, claim 1 is ptentably distinguishable from Abe.

Claim 6 and those depending therefrom have been rejected in the manner of claim 1. Claim 6 has been amended in the manner of claim 1 and accordingly, claim 6 and those depend therefrom are patentably distinguishable from Abe for at least the same reasons as claim 1.

Applicant believes this application and the claims herein to be in a condition for allowance. Should the Examiner have further inquiry concerning these matters, please contact the below named attorney for Applicant.

Respectfully submitted,

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